

REMARKS

The present amendment is in response to the Office Action mailed September 24, 2002, in which Claims 1 through 19 were rejected. Applicants have thoroughly reviewed the outstanding Office Action including the Examiner's remarks and the reference cited therein. The following remarks are believed to be fully responsive to the Office Action and, when coupled with the amendments made herein, are believed to render all claims at issue patentably distinguishable over the cited references.

Claims 1, 5, 6, 8, 10, 12 and 16 are amended herein. Claims 11 and 19 are cancelled. New Claims 20 and 21 are added. Accordingly, Claims 1 through 10, 12 through 18, 20, and 21 remain pending.

All the changes are made for clarification and are based on the application and drawings as originally filed. It is respectfully submitted that no new matter is added.

Applicants respectfully request reconsideration in light of the above amendments and the following remarks.

DOUBLE PATENTING REJECTION

With respect to Paragraphs 1 and 2 of the Office Action, the Examiner provisionally rejected Claims 1 through 19 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 1 through 16 and 20 through 32 of co-pending U.S.S.N. 09/601,790 in view of U.S. Patent No. 5,529,843 in view of Dries *et al.*

Applicants submit herewith a Terminal Disclaimer thereby overcoming this rejection. Accordingly, Applicants respectfully request that the double patenting rejection be reconsidered and withdrawn.

CLAIM REJECTION – 35 U.S.C. SECTION 101

With respect to Paragraph 3 of the Office Action, the Examiner rejected Claim 19 under 35 U.S.C. Section 101 as being directed to a claimed recitation of use without setting forth any steps involved in the process.

Applicants respectfully traverse this rejection on the grounds that it is now moot.

Claim 19 has been cancelled herein. New Claims 20 and 21 are directed to a method of use.

Reconsideration and withdrawal of the Examiner's rejection under 35 U.S.C. Section 101 are respectfully requested.

CLAIM REJECTIONS – 35 U.S.C. SECTION 112

With respect to Paragraphs 4 through 7 of the Office Action, the Examiner rejected Claims 5, 6, 8, 10, 12, 16 and 19 under 35 U.S.C. Section 112 as being indefinite for failing to point out and distinctly claim the subject matter which Applicants regard as the invention.

Applicants respectfully traverse these rejections on the grounds that the rejected claims have been either amended for clarification to overcome the rejection or have been cancelled.

Regarding Claims 5, 6, 8, 10 12, and 16, these claims have been amended to remove the narrower limitations. Regarding Claim 19, this claim has been cancelled herein.

Reconsideration and withdrawal of the Examiner's rejections under 35 U.S.C. Section 112 are respectfully requested.

CLAIM REJECTIONS – 35 U.S.C. SECTIONS 102(b) & 102(e)

The Examiner has made rejections of several of the pending claims under 35 U.S.C. Sections 102(b) and 102(e). Of the rejected claims only Claim 1 is independent.

In brief, independent Claim 1 has been amended for clarification by adding the limitations of former dependent Claim 11 directed to a base layer containing a hard resin. In addition, Claim 1 has been amended by adding further limitations as follows:

- To define a film that is transparent. This limitation may be found in the application as originally filed at, for example, page 19, lines 15 and 16.
- To define the composition of the base layer as being an isotactic homopolymer. This limitation may be found in the application as originally filed at, for example, page 3, lines 23 and 24.

To define the top layer and the interlayer as being formed from a polymer taken from the group consisting of an isotactic propylene homopolymer, a propylene

copolymer, or a propylene terpolymer. These limitations may be found in the application as originally filed at, for example, page 10, line 14 through page 11, line 19 (for the interlayer) and page 16, line 18, through page 17, line 24 (for the top layer).

Specific rejections are responded to as follows.

1. Claims 1 through 5, 7, 8, 9, 10, 12, 13, 16, 17, 18 and 19

With respect to Paragraphs 8 through 10 of the Office Action, the Examiner rejected Claims 1 through 5, 7, 8, 9, 10, 12, 13, 16, 17, 18, and 19 under 35 U.S.C. Section 102(b) as being anticipated by U.S. Patent No. 6,159,612 to Chu *et al.* (hereinafter referred to as “Chu *et al.*”).

Applicants respectfully traverse these rejections on the grounds that only rejected independent claim – independent Claim 1 - has been amended for clarification to overcome the rejection and Claim 19 has been cancelled.

The cited reference, Chu *et al.*, is directed to a multilayer barrier film having a base layer of isotactic polypropylene and a barrier layer with a very specific composition. Such a barrier layer comprises a syndiotactic polypropylene (having a very low isotacticity of less than 25%) and wax. The film as defined in independent Claim 1 as amended is patentably distinguishable in that it defines a better barrier by a synergistic effect of a hard resin modified layer combined with a wax modified intermediate layer. A comparison of the present invention as presently claimed and Chu *et al.* demonstrates the conceptual differences between the two inventions. According to the present invention, the improved barrier is not provided by introducing

one layer having very good barrier characteristics. Instead, the present invention is directed to an entire film composition that has been improved. Beyond this underlying difference, specific structural differences include, for example, the fact that the present invention has as part of its composition isotactic polypropylene, whereas Chu *et al.* uses syndiotactic material. Clearly these materials are very different. In addition, the present invention includes a hard resin in the base layer, whereas Chu *et al.* has a plain base layer that is not modified by any means.

Accordingly, Applicants respectfully submit that independent Claim 1 is not anticipated by the teaching of Chu *et al.* The remaining rejected claims, being dependent upon Claim 1, are likewise not anticipated by Chu *et al.* Reconsideration and withdrawal of the Examiner's rejections of Claims 1 through 5, 7, 8, 9, 10, 12, 13, 16, 17 and 18 under 35 U.S.C. Section 102(b) are respectfully requested.

2. Claims 1 through 10, 12, and 14 through 19

With respect to Paragraphs 8 and 11 of the Office Action, the Examiner rejected Claims 1 through 10, 12, and 14 through 19 under 35 U.S.C. Section 102(b) as being anticipated by U.S. Patent No. 6,033,771 to Heffelfinger (hereinafter referred to as "Heffelfinger").

Applicants respectfully traverse these rejections on the grounds that only rejected independent claim – independent Claim 1 - has been amended for clarification to overcome the rejection and Claim 19 has been cancelled.

The cited reference, Heffelfinger, is directed to a very specific opaque voided film structure wherein a wax is added to the non voided base layer. The wax migrates from the non-voided base layer to the voided intermediate layer, where the wax is trapped in the voids. The transparent film defined in present Claim 1, by definition, has no voids where wax can become trapped, and thus the mechanism of the film formation and the film composition must be different from the teaching of Heffelfinger. Instead, according to the present invention as defined in independent Claim 1, wax is added to the intermediate layer, but not to the base layer. In addition, and like the teaching of Chu *et al.* discussed above, the present invention as claimed includes a hard resin in the base layer, whereas Heffelfinger is entirely silent as to the presence of additional hard resin.

Accordingly, Applicants respectfully submit that independent Claim 1 is not anticipated by the teaching of Chu *et al.* The remaining rejected claims, being dependent upon Claim 1, are likewise not anticipated by Chu *et al.* Reconsideration and withdrawal of the Examiner's rejections of Claims 1 through 10, 12 and 14 through 18 under 35 U.S.C. Section 102(b) are respectfully requested.

3. Claims 1 through 10 and 12 through 19

With respect to Paragraphs 8 and 12 of the Office Action, the Examiner rejected Claims 1 through 5, 7, 8, 9, 10, 12, 13, 16, 17 18, and 19 under 35 U.S.C. Section 102(e) as being anticipated by U.S. Patent No. 6,312,825 to Su *et al.* (hereinafter referred to as "Su *et al.*").

Applicants respectfully traverse these rejections on the grounds that only rejected independent claim – independent Claim 1 - has been amended for clarification to overcome the rejection and Claim 19 has been cancelled.

As noted by the Examiner, *Su et al.* parallels the disclosure of *Chu et al.*, discussed above. Accordingly, *Su et al.* is distinguishable by most of the same conceptual and structural differences that it is believed render the present claims allowable over *Chu et al.* Specifically, *Su et al.* fail to disclose or in any way anticipate a transparent film having a hard resin base and an interlayer and a top layer consisting of a material taken from the defined group.

Accordingly, Applicants respectfully submit that independent Claim 1 is not anticipated by the teaching of *Su et al.* The remaining rejected claims, being dependent upon Claim 1, are likewise not anticipated by *Su et al.* Reconsideration and withdrawal of the Examiner's rejections of Claims 1 through 10 and 12 through 18 under 35 U.S.C. Section 102(e) are respectfully requested.

CLAIM REJECTIONS – 35 U.S.C. SECTION 103(a)

With respect to Paragraphs 13 and 14, the Examiner rejected Claims 1 through 19 under 35 U.S.C. Section 103(a) as being unpatentable over *Chu et al.* or Heffelfinger in view of U.S. Patent No. 5,254,394 to Bothe *et al.* (hereinafter referred to as “Bothe *et al.*”)

Applicants respectfully traverse these rejections on the grounds that only rejected independent claim – independent Claim 1 - has been amended for clarification to overcome the rejection and Claim 19 has been cancelled.

Particularly in view of the amendments made to Claim 1 herein, the cited reference, Bothe *et al.*, is only remotely related to the present invention. Bothe *et al.* is not related to films with intermediate layers. In fact, Bothe *et al.* disclose only three-layered films. Bothe *et al.* use specific syndiotactic polypropylene for a non-barrier purpose. Bothe *et al.* nowhere suggest the combining of a hard resin modified base layer with a modified intermediate layer. The reference to Bothe *et al.* is not even related to barrier films. This is clear from col. 3, lines 20 to 35, where specific barrier layers are recommended if barrier properties are required in a given application. Accordingly, and considering the Examiner's proposed combination of references, if a skilled artisan would desire to improve the barrier properties of the film set forth in the reference to Chu *et al.*, such an artisan would add barrier layers as suggested by Bothe *et al.* in col. 3, lines 20 to 35, mentioned above. But it is unrealistic to believe that the skilled artisan could arrive at the conclusion that a wax-modified intermediate layer is useful for improving the barrier. Bothe *et al.* suggest adding a hard resin to the base layer, but the inventors of that reference give no specific reason *why* such a resin should be added or *where to* specifically add the resin.

It is respectfully submitted that combination proposed by the Examiner is one made by relying on hindsight. The difficulties discussed above with the proposed combination of Chu *et al.* and Bothe *et al.* supports the Applicants' conclusion. Each of

the cited references is very specific in its teaching. The Examiner has combined the documents and has arbitrarily picked the features which are needed to derive the structure of Claim 1.

Applicants respectfully submit that believe Chu *et al.* is most likely the closest of the prior art references since this reference at least relates mostly to the same object, namely, to barrier films. Also the film of Chu *et al.* comprises a wax-modified intermediate layer. The inventors of Chu *et al.* explains that their film has a very good barrier because the intermediate layer is composed of wax and a syndiotactic polymer is a barrier layer. Therefore a skilled artisan starting with Chu *et al.* would hardly be motivated to modify this barrier layer if a good barrier is required. Therefore Applicants respectfully submit that it would not be obvious to modify the polymer of the intermediate layer of Chu *et al.* at all.

Applicants further submit that the combination of Chu *et al.* with Heffelfinger cannot be supported. Applicants do not understand which feature of Heffelfinger would bring the skilled artisan closer to the invention as presently defined. Perhaps a logical combination of these two references could produce a voided layer (which would provide a poor barrier precisely because of the voids) combined with the syndiotactic wax modified barrier layer of Chu *et al.*, but such a combination would not render the present invention as claimed unpatentable.

But a skilled artisan desiring to provide a good barrier film starting which Chu *et al.* will not find Heffelfinger helpful at all. This leaves the skilled artisan with only the reference to Bothe *et al.* to consider. This reference includes a very specific teaching

with respect to a barrier at col. 3, lines 20 to 35. Thus if a skilled artisan would desire to further improve the barrier of Chu *et al.* that artisan would note such a teaching and would combine Chu *et al.* with an additional barrier layer as disclosed in col. 3 of the reference to Bothe *et al.* But in so doing Applicants wonder as to where there is an instruction or a suggestion in Bothe *et al.* to ignore this specific teaching about barrier but instead to discern the generic teaching as regards hard resins. There are many steps and several modifications which the skilled artisan would have to perform to reach the structure as defined in amended Claim 1 when Bothe *et al.* and Chu *et al.* are read in combination. After a combined reading the artisan would have to substitute the syndiotactic polymer of the intermediate layer of Chu *et al.* into standard polypropylene and would also be required to substitute the syndiotactic polymer of Bothe's cover layer into standard polypropylene. Yet still the artisan would leave the wax in the intermediate layer, and this is unlikely and undesirable. There would simply be no motivation to follow this route. According to Chu *et al.* it is the combination of the syndiotactic material and the wax that makes the barrier. Using this as a teaching it is difficult to imagine why one skilled in the art would conclude that still the wax in another polymer matrix could be helpful.

It is also difficult to imagine how the skilled artisan would reach the further result of employing a hard resin, even though Bothe *et al.* offer no teaching as to *why*, *where* and *when* hard resin is useful. Similarly there is no reason that the artisan would add hard resin to the base layer with some knowledge (not disclosed in the cited art) that a hard resin modified base layer combined with a wax modified intermediate layer would

produce a film with a very good barrier relying overall on a very low level of additives. Applicants respectfully submit that the combination of references in the way presented by the Examiner could only have been accomplished relying upon pure hindsight. Applicants respectfully submit that there are simply too many steps with too many modifications being necessary to result in the film structure as defined in amended Claim 1.

Accordingly, Applicants respectfully submit that, even if the combination as proposed by the Examiner were permissible, such a combination of references would still fail to result in the invention as presently claimed.

Applicants respectfully submit that independent Claim 1 is not rendered obvious by the cited references, either when standing alone or in combination. The remaining rejected claims, being dependent upon Claim 1, are likewise not rendered obvious by the proposed combination of claims. Reconsideration and withdrawal of the Examiner's rejections of Claims 1 through 18 under 35 U.S.C. Section 103(a) are respectfully requested.

MARKED-UP CHANGES

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached paper is captioned **"VERSION WITH MARKINGS TO SHOW CHANGES MADE."**

CONCLUSION

In light of the above amendments and remarks, Applicants respectfully submit that all pending Claims 1 through 10, 12 through 18, 20, and 21 as currently presented are in condition for allowance. If, for any reason, the Examiner disagrees, please call the undersigned attorney at 202-624-3947 in an effort to resolve any matter still outstanding *before* issuing another action. The undersigned attorney is confident that any issue which might remain can readily be worked out by telephone.

Applicants respectfully request that a timely Notice of Allowance be issued in this case.

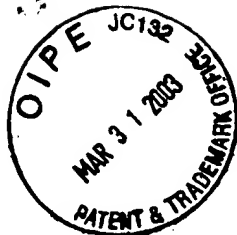
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VERSION WITH MARKINGS TO SHOW CHANGES MADE
(USSN 09/762,572)

IN THE CLAIMS:

Claims 11 and 19 have been cancelled, Claims 1, 5, 6, 8, 10, 12, and 16 have been amended, and new Claims 20 and 21 have been added as follows:

1. (Amended) A multilayer, biaxially oriented polypropylene transparent film comprising a base layer, said base layer having a weight, said base layer being formed from an isotactic homopolymer comprising a hydrocarbon resin in an amount of from 1 to 20% by weight based on said weight of said base layer, the film further including [and] at least one heat-sealable top layer and at least one interlayer in accordance with a BZD layer structure, which film comprises wax in its interlayer, wherein the interlayer comprises a wax having a mean molecular weight M_n of from 200 to 1200, said at least one top layer and said at least one interlayer being formed from a polymer taken from the group consisting of an isotactic propylene homopolymer, a propylene copolymer, or a propylene terpolymer.

5. (Amended) A polypropylene film as claimed in claim 1, wherein the interlayer has a thickness of from 0.2 to 10 μm [, preferably from 0.4 to 5 μm].

6. (Amended) A polypropylene film as claimed in claim 1, wherein the interlayer comprises a highly isotactic propylene homopolymer having a chain isotacticity index of the n-heptane-insoluble content, determined by ^{13}C -NMR spectroscopy, of at least 95%[, preferably from 96 to 99%].

8. (Amended) A polypropylene film as claimed in claim 1, wherein wax-containing interlayers of olefinic polymers[, preferably propylene homopolymer,] are applied to both sides between the base layer and the interlayer(s).

10. (Amended) A polypropylene film as claimed in claim 1, wherein the base layer comprises a highly isotactic propylene homopolymer having a chain isotacticity index of the n-heptane-insoluble content, determined by ^{13}C -NMR spectroscopy, of at least 95%[, preferably from 96 to 99%].

12. (Amended) A polypropylene film as claimed in claim 1, wherein the base layer comprises an antistatic[, preferably a tertiary aliphatic amine].

16. (Amended) A polypropylene film as claimed in claim 1, wherein the top layer(s) comprise(s) lubricants[, preferably polydimethylsiloxane] and antiblocking agents[, preferably SiO_2].

20. (New) A method for forming a multilayer, biaxially oriented polypropylene transparent film for use as a packing film, the method comprising the steps of forming a film having a base layer, at least one top layer and at least one interlayer, said base layer having a weight, said base layer being formed from an isotactic homopolymer comprising a hydrocarbon resin in an amount of from 1 to 20% by weight based on said weight of said base layer, said at least one top layer being a heat-sealable layer, and said at least one interlayer being formed in accordance with a BZD layer structure, which film comprises wax in its interlayer, wherein the interlayer comprises a wax having a mean molecular weight M_n of from 200 to 1200, said at least one top layer and

said at least one interlayer being formed from a polymer taken from the group consisting of an isotactic propylene homopolymer, a propylene copolymer, or a propylene terpolymer.

21. (New) The method of Claim 20, wherein said packing film is usable as a cigarette wrapping film.